

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Errors
1	B R S	L1	0	(telecommunication adj network) same (telecommunication adj feature) same availabil\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:44		0
2	B R S	L2	0	(telecommunication adj network) same (telecommunication adj feature) same (unavailab\$5 or availab\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:22		0
3	B R S	L4	4885	705/1,500,26,27,7,8,9,10,11,22.c cls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:24		0
4	B R S	L5	0	3 and 4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:24		0
5	B R S	L6	15071	705/\$7.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:24		0
6	B R S	L8	0	3 and 6	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:25		0
7	B R S	L3	22	(telecommunication adj feature) same (unavailab\$5 or availab\$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:43		0
8	B R S	L9	609	(telecommunication) same (unavailab\$5 or availab\$5) same (customer near3request\$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:44		0
9	B R S	L10	70	6 and 9	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:44		0
10	B R S	L11	30	10 and 4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:44		0
11	B R S	L12	4112	telecommunication adj service	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 18:46		0
12	B R S	L13	11	11 and 12	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:41		0
13	B R S	L14	19	11 not 13	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:46		0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Errors
14	B R S	L15	2	5751802.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:46		0
15	B R S	L16	21	5751802.URPN.	USPAT	2002/09/16 19:46		0
16	B R S	L17	20	16 not 11	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:47		0
17	B R S	L18	9	17 and 12	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:47		0
18	B R S	L19	5	18 and 9	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/09/16 19:47		0



US006411935B1

(12) **United States Patent**  
Gilles et al.

(10) **Patent No.:** US 6,411,935 B1  
(45) **Date of Patent:** \*Jun. 25, 2002

(54) **TRANSACTION SETS FOR AUTOMATED  
ELECTRONIC ORDERING OF  
TELECOMMUNICATIONS PRODUCTS AND  
SERVICES**

(75) **Inventors:** Timothy Mark Gilles, Schaumburg, IL  
(US); Therese A Wierzbicki, Franklin,  
WI (US); Donna Jean Marie Motto,  
Bartlett, IL (US)

(73) **Assignee:** Ameritech Corporation, Austin, TX  
(US)

(\*) **Notice:** Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-  
claimer.

4,782,519 A 11/1988 Patel et al.  
4,951,196 A 8/1990 Jackson  
5,012,511 A 4/1991 Hanle et al.  
5,086,461 A 2/1992 Thorn et al.  
5,222,125 A 6/1993 Creswell et al.  
5,283,887 A 2/1994 Zachery  
5,416,833 A 5/1995 Harper et al.  
5,491,742 A 2/1996 Harper et al.  
5,528,667 A 6/1996 Butler et al.  
5,557,780 A 9/1996 Edwards et al.  
5,644,619 A 7/1997 Farris et al.  
5,794,206 A 8/1998 Wilkinson  
5,794,234 A 8/1998 Church et al.  
5,870,394 A 2/1999 Optea

*Primary Examiner*—Creighton Smith

(74) *Attorney, Agent, or Firm*—Brinks Hofer Gilson &  
Lione

(21) **Appl. No.:** 09/563,319

(22) **Filed:** May 3, 2000

#### Related U.S. Application Data

(63) Continuation of application No. 09/055,846, filed on Apr. 6,  
1998, now Pat. No. 6,104,999.

(51) **Int. Cl.**<sup>7</sup> ..... G06F 17/00

(52) **U.S. Cl.** ..... 705/1; 705/26

(58) **Field of Search** ..... 705/1, 26; 370/392,  
370/393, 394; 379/27; 395/500.48, 500.54

#### (56) References Cited

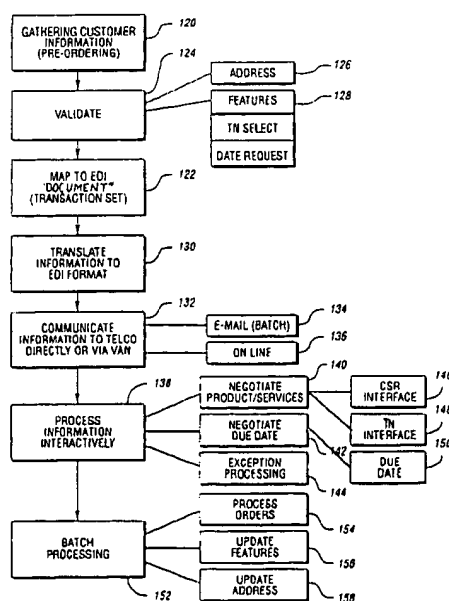
##### U.S. PATENT DOCUMENTS

4,232,199 A 11/1980 Boatwright et al.

#### (57) ABSTRACT

A system and method for electronically exchanging infor-  
mation related to telecommunication services includes sepa-  
rating data representing the information to be exchanged  
into predefined segments corresponding to telecommunica-  
tion services, associating a segment identification code with  
each segment, and grouping each segment identification  
code with corresponding data. The system and method also  
include concatenating the segment identification codes and  
associated data according to a predefined sequence to form  
an electronic transaction and transmitting the electronic  
message to a telecommunications wholesaler or reseller.  
Preferably, the information is exchanged over a TCP/IP  
connection in an interactive, transaction-based exchange.

12 Claims, 7 Drawing Sheets



US-PAT-NO: 6411935

DOCUMENT-IDENTIFIER: US 6411935 B1

TITLE: Transaction sets for automated electronic ordering of telecommunications products and services

----- KWIC -----

A system and method for electronically exchanging information related to telecommunication services includes separating data representing the information to be exchanged into predefined segments corresponding to telecommunication services, associating a segment identification code with each segment, and grouping each segment identification code with corresponding data. The system and method also include concatenating the segment identification codes and associated data according to a predefined sequence to form an electronic transaction and transmitting the electronic message to a telecommunications wholesaler or reseller. Preferably, the information is exchanged over a TCP/IP connection in an interactive, transaction-based exchange.

The present invention relates to electronic ordering of telecommunications services and products.

Automated electronic processing of orders for telecommunications products and services according to the present invention minimizes or eliminates human intervention to reduce or eliminate costs associated with handling paper documents. The present invention provides a real-time, interactive interface for telecommunications resellers to increase accuracy and reduce turn-around time. The development of transaction sets particularly suited for telecommunications services and products provides a standard method for electronic ordering where external access to dynamic data is required. Automated translation to and from unique or proprietary interfaces used by individual resellers to standard transaction sets further reduces manual intervention while providing increased flexibility for telecommunication product/services resellers.

FIG. 1 is a diagram illustrating a Public Switched Telephone Network (PSTN) for application of automated electronic telecommunications product/service ordering according to the present invention. The PSTN, indicated generally by reference numeral 20, includes a number of Local Exchange Carriers (LEC), such as LEC 22, which function as wholesalers for telecommunication products and services. Each LEC 22 owns and/or manages one or more Central Offices (CO), indicated generally by reference numeral 24, such as Central Offices 26-36. As is known, each CO 24 typically serves a particular geographic area and includes various hardware and software to deliver telecommunication services. Such hardware includes one or more switches 38, 40 to provide a communication path for a telephone call. The various COs 24 are typically connected using one or more circuits 42 which are classified based on bandwidth capability, signal protocol, or the like, as also well known in the art.

The purchase order transaction set (850) may be used to provide for customary and established business and industry practice relative to the placement of purchase orders for telecommunications goods and services. For example, the reseller would use this transaction set to request telecommunications services from the wholesaler. Preferably, the purchase order is used to request any of the following types of services, each based on unique transaction identifiers contained within the transaction set: telephone number inquiries, reservations, reservation cancellations, and reservation confirmations; due date inquiries, reservations, reservation cancellations, and reservation confirmations; customer service record requests; and service requests.

andwidth capability, signal protocol, or the like, as also well known in the art.

The purchase order transaction set (850) may be used to provide for customary and established business and industry practice relative to the placement of purchase orders for telecommunications goods and services. For example, the reseller would use this transaction set to request telecommunications services from the wholesaler. Preferably, the purchase order is used to request any of the following types of services, each based on unique transaction identifiers contained within the transaction set: telephone number inquiries, reservations, reservation cancellations, and reservation confirmations; due date inquiries, reservations, reservation cancellations, and reservation confirmations; customer service record requests; and service requests.

---

Block 120 of FIG. 2 represents gathering customer information during a pre-ordering process. This is typically performed by the reseller in response to a customer inquiry or request for a service. However, this step may also be initiated by the reseller or wholesaler under particular circumstances, such as in the event of termination of service for non-payment, area code changes, feature availability changes, and the like. For a representative transaction, the reseller gathers appropriate information depending upon the particular telecommunications service or product. The resellers use internal computing systems, such as computers 72, and/or databases to collect the appropriate items which constitute a particular transaction set for an electronic exchange of information. However, the information necessary for a particular transaction set may be scattered about various fields and/or databases depending upon the particular reseller's implementation. As such, the information or data is collected or mapped to a particular transaction set to form an electronic "document" as indicated by reference numeral 122.

FIG. 3 is a transaction flow diagram illustrating a pre-ordering exchange between a telecommunications provider and a telecommunications reseller as implemented in one embodiment of the present invention. Once a relationship has been established between reseller 50 and wholesaler 22, reseller 50 receives regular transmissions of a feature availability file 200 and address validation file 202 for subsequent use in processing customer orders. When reseller 50 receives an order or inquiry from a customer, reseller 50 initiates an electronic request for customer service record information and transmits the request to wholesaler 22 using either the purchaser order transaction set (850) as indicated by reference numeral 204. If the customer service record request has appropriate authorization, the corresponding customer service record is forwarded to the reseller using the customer service record response transaction set (864) as indicated by reference numeral 206.

the particular reseller's implementation. As such, the information or data is collected or mapped to a particular transaction set to form an electronic "document" as indicated by reference numeral 422.

FIG. 3 is a transaction flow diagram illustrating a pre-ordering exchange between a telecommunications provider and a telecommunications reseller as implemented in one embodiment of the present invention. Once a relationship has been established between reseller 50 and wholesaler 22, reseller 50 receives regular transmissions of a feature availability file 200 and address validation file 202 for subsequent use in processing customer orders. When reseller 50 receives an order or inquiry from a customer, reseller 50 initiates an electronic request for customer service record information and transmits the request to wholesaler 22 using either the purchaser order transaction set (850) as indicated by reference numeral 204. If the customer service record request has appropriate authorization, the corresponding customer service record is forwarded to the reseller using the customer service record response transaction set (864) as indicated by reference numeral 206.

Using the feature availability interface in an interactive mode, the telecommunications reseller can ensure that the desired features are available for the serving CO retrieved through the address validation process. Where the CO serving the customer includes more than one switch, the feature availability interface determines the switch which contains the desired features, or selects the switch which contains the most features based on quantity or importance. The reseller can use the various feature files to determine all of the areas in which a particular feature is offered, determine which features are offered for a particular prefix (exchange), and determine valid prefixes for a particular CO.

1. A method for electronically exchanging information related to telecommunications services, the method comprising:

- (a) obtaining the telecommunications service information to be exchanged, the data being in a plurality of predefined segments;
- (b) associating a segment identification code with each of the plurality of predefined segments, at least one of the segments corresponding to one of the telecommunications services;
- (c) concatenating the segment identification codes and associated telecommunications services information according to a predefined sequence; and
- (d) transmitting the concatenated segment identification codes and associated telecommunications services information from a telecommunications reseller to a telecommunications wholesaler.
- (e) parsing the telecommunications service information as a function of the predefined segments;
- (f) identifying a corresponding telecommunications service; and
- (g) automatically generating an acknowledgement containing segment identification codes for the corresponding telecommunications service.
- (g) transmitting the formatted customer service information to the telecommunications services reseller.
- (e) identifying a request related to telephone number selection from the telecommunications services information;
- (e) identifying a request related to a due date selection from the telecommunications services information;
- (e) providing a telecommunications service to an end-user responsive to the



US006411935B1

(12) **United States Patent**  
Gilles et al.

(10) Patent No.: **US 6,411,935 B1**  
(45) Date of Patent: **\*Jun. 25, 2002**

(54) **TRANSACTION SETS FOR AUTOMATED ELECTRONIC ORDERING OF TELECOMMUNICATIONS PRODUCTS AND SERVICES**

(75) Inventors: **Timothy Mark Gilles**, Schaumburg, IL (US); **Therese A Wierzbicki**, Franklin, WI (US); **Donna Jean Marie Motto**, Bartlett, IL (US)

(73) Assignee: **Ameritech Corporation**, Austin, TX (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

4,782,519 A	11/1988	Patel et al.
4,951,196 A	8/1990	Jackson
5,012,511 A	4/1991	Hanle et al.
5,086,461 A	2/1992	Thorn et al.
5,222,125 A	6/1993	Creswell et al.
5,283,887 A	2/1994	Zachery
5,416,833 A	5/1995	Harper et al.
5,491,742 A	2/1996	Harper et al.
5,528,667 A	6/1996	Butler et al.
5,557,780 A	9/1996	Edwards et al.
5,644,619 A	7/1997	Farris et al.
5,794,206 A	8/1998	Wilkinson
5,794,234 A	8/1998	Church et al.
5,870,394 A	2/1999	Optea

Primary Examiner—Creighton Smith

(74) Attorney, Agent, or Firm—Brinks Hofer Gilson & Lyon

# (57) ABSTRACT

A system and method for electronically exchanging information related to telecommunication services includes separating data representing the information to be exchanged into predefined segments corresponding to telecommunication services, associating a segment identification code with each segment, and grouping each segment identification code with corresponding data. The system and method also include concatenating the segment identification codes and associated data according to a predefined sequence to form an electronic transaction and transmitting the electronic message to a telecommunications wholesaler or reseller. Preferably, the information is exchanged over a TCP/IP connection in an interactive, transaction-based exchange.

(21) Appl. No.: **09/563,319**

(22) Filed: **May 3, 2000**

## Related U.S. Application Data

(63) Continuation of application No. 09/055,846, filed on Apr. 6, 1998, now Pat. No. 6,104,999.

(51) Int. Cl.<sup>7</sup> ..... **G06F 17/00**

(52) U.S. Cl. .... **705/1; 705/26**

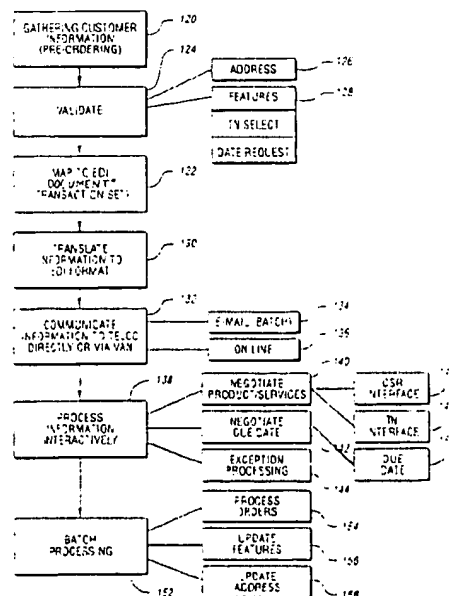
(58) Field of Search ..... **705/1, 26; 370/392, 370/393, 394; 379/27; 395/500.48, 500.54**

## (56) References Cited

### U.S. PATENT DOCUMENTS

4,232,199 A 11/1980 Boatwright et al.

12 Claims, 7 Drawing Sheets



US-PAT-NO: 6411935

DOCUMENT-IDENTIFIER: US 6411935 B1

TITLE: Transaction sets for automated electronic ordering of telecommunications products and services

----- KWIC -----

A system and method for electronically exchanging information related to telecommunication services includes separating data representing the information to be exchanged into predefined segments corresponding to telecommunication services, associating a segment identification code with each segment, and grouping each segment identification code with corresponding data. The system and method also include concatenating the segment identification codes and associated data according to a predefined sequence to form an electronic transaction and transmitting the electronic message to a telecommunications wholesaler or reseller. Preferably, the information is exchanged over a TCP/IP connection in an interactive, transaction-based exchange.

The present invention relates to electronic ordering of telecommunications services and products.

Automated electronic processing of orders for telecommunications products and services according to the present invention minimizes or eliminates human intervention to reduce or eliminate costs associated with handling paper documents. The present invention provides a real-time, interactive interface for telecommunications resellers to increase accuracy and reduce turn-around time. The development of transaction sets particularly suited for telecommunications services and products provides a standard method for electronic ordering where external access to dynamic data is required. Automated translation to and from unique or proprietary interfaces used by individual resellers to standard transaction sets further reduces manual intervention while providing increased flexibility for telecommunication product/services resellers.

FIG. 1 is a diagram illustrating a Public Switched Telephone Network (PSTN) for application of automated electronic telecommunications product/service ordering according to the present invention. The PSTN, indicated generally by reference numeral 20, includes a number of Local Exchange Carriers (LEC), such as LEC 22, which function as wholesalers for telecommunication products and services. Each LEC 22 owns and/or manages one or more Central Offices (CO), indicated generally by reference numeral 24, such as Central Offices 26-36. As is known, each CO 24 typically serves a particular geographic area and includes various hardware and software to deliver telecommunication services. Such hardware includes one or more switches 38, 40 to provide a communication path for a telephone call. The various COs 24 are typically connected using one or more circuits 42 which are classified based on bandwidth capability, signal protocol, or the like, as also well known in the art.

The purchase order transaction set (850) may be used to provide for customary and established business and industry practice relative to the placement of purchase orders for telecommunications goods and services. For example, the reseller would use this transaction set to request telecommunications services from the wholesaler. Preferably, the purchase order is used to request any of the following types of services, each based on unique transaction identifiers contained within the transaction set: telephone number inquiries, reservations, reservation cancellations, and reservation confirmations; due date inquiries, reservations, reservation cancellations, and reservation confirmations; customer service record requests; and service requests.



andwidth capability, signal protocol, or the like, as also well known in the art.

The purchase order transaction set (850) may be used to provide for customary and established business and industry practice relative to the placement of purchase orders for telecommunications goods and services. For example, the reseller would use this transaction set to request telecommunications services from the wholesaler. Preferably, the purchase order is used to request any of the following types of services, each based on unique transaction identifiers contained within the transaction set: telephone number inquiries, reservations, reservation cancellations, and reservation confirmations; due date inquiries, reservations, reservation cancellations, and reservation confirmations; customer service record requests; and service requests.

---

Block 120 of FIG. 2 represents gathering customer information during a pre-ordering process. This is typically performed by the reseller in response to a customer inquiry or request for a service. However, this step may also be initiated by the reseller or wholesaler under particular circumstances, such as in the event of termination of service for non-payment, area code changes, feature availability changes, and the like. For a representative transaction, the reseller gathers appropriate information depending upon the particular telecommunications service or product. The resellers use internal computing systems, such as computers 72, and/or databases to collect the appropriate items which constitute a particular transaction set for an electronic exchange of information. However, the information necessary for a particular transaction set may be scattered about various fields and/or databases depending upon the particular reseller's implementation. As such, the information or data is collected or mapped to a particular transaction set to form an electronic "document" as indicated by reference numeral 122.

FIG. 3 is a transaction flow diagram illustrating a pre-ordering exchange between a telecommunications provider and a telecommunications reseller as implemented in one embodiment of the present invention. Once a relationship has been established between reseller 50 and wholesaler 22, reseller 50 receives regular transmissions of a feature availability file 200 and address validation file 202 for subsequent use in processing customer orders. When reseller 50 receives an order or inquiry from a customer, reseller 50 initiates an electronic request for customer service record information and transmits the request to wholesaler 22 using either the purchaser order transaction set (850) as indicated by reference numeral 204. If the customer service record request has appropriate authorization, the corresponding customer service record is forwarded to the reseller using the customer service record response transaction set (864) as indicated by reference numeral 206.

the particular reseller's implementation. As such, the information or data is collected or mapped to a particular transaction set to form an electronic "document" as indicated by reference numeral 122.

FIG. 3 is a transaction flow diagram illustrating a pre-ordering exchange between a telecommunications provider and a telecommunications reseller as implemented in one embodiment of the present invention. Once a relationship has been established between reseller 50 and wholesaler 22, reseller 50 receives regular transmissions of a feature availability file 200 and address validation file 202 for subsequent use in processing customer orders. When reseller 50 receives an order or inquiry from a customer, reseller 50 initiates an electronic request for customer service record information and transmits the request to wholesaler 22 using either the purchaser order transaction set (850) as indicated by reference numeral 204. If the customer service record request has appropriate authorization, the corresponding customer service record is forwarded to the reseller using the customer service record response transaction set (864) as indicated by reference numeral 206.

Using the feature availability interface in an interactive mode, the telecommunications reseller can ensure that the desired features are available for the serving CO retrieved through the address validation process. Where the CO serving the customer includes more than one switch, the feature availability interface determines the switch which contains the desired features, or selects the switch which contains the most features based on quantity or importance. The reseller can use the various feature files to determine all of the areas in which a particular feature is offered, determine which features are offered for a particular prefix (exchange), and determine valid prefixes for a particular CO.

1. A method for electronically exchanging information related to telecommunications services, the method comprising:

- (a) obtaining the telecommunications service information to be exchanged, the data being in a plurality of predefined segments;
- (b) associating a segment identification code with each of the plurality of predefined segments, at least one of the segments corresponding to one of the telecommunications services;
- (c) concatenating the segment identification codes and associated telecommunications services information according to a predefined sequence; and
- (d) transmitting the concatenated segment identification codes and associated telecommunications services information from a telecommunications reseller to a telecommunications wholeseller.
- (e) parsing the telecommunications service information as a function of the predefined segments;
- (f) identifying a corresponding telecommunications service; and
- (g) automatically generating an acknowledgement containing segment identification codes for the corresponding telecommunications service.
- (g) transmitting the formatted customer service information to the telecommunications services reseller.
- (e) identifying a request related to telephone number selection from the telecommunications services information;
- (e) identifying a request related to a due date selection from the telecommunications services information;
- (e) providing a telecommunications service to an end-user responsive to the

L4 ANSWER 1 OF 8 USPATFULL  
 AN 1999:28842 USPATFULL  
 TI Sales and inventory method and apparatus  
 IN Joseph, Joseph, 470 Kent Ave., Brooklyn, NY, United States 11211  
 PI US 5878401 19990302 <--  
 AI US 1996-599184 19960209 (8)  
 DT Utility  
 FS Granted  
 LN.CNT 503  
 INCL INCLM: 705/022.000  
 INCLS: 705/027.000  
 NCL NCLM: 705/022.000  
 NCLS: 705/027.000  
 IC [6]  
 ICM: G06F017-60  
 ICS: G07G001-14  
 EXF 705/22; 705/21; 705/16; 705/26; 705/27

L4 ANSWER 2 OF 8 USPATFULL  
 AN 1998:139512 USPATFULL  
 TI System for generation of object profiles for a system for customized electronic identification of desirable objects  
 IN Herz, Frederick S. M., Box 625 Canaan Valley, Davis, WV, United States 26260  
 Eisner, Jason M., 1015 Spruce St., Philadelphia, PA, United States 19107  
 Ungar, Lyle H., 321 S. 20th St., Philadelphia, PA, United States 19103  
 PI US 5835087 19981110 <--  
 AI US 1995-551201 19951031 (8)  
 RLI Continuation-in-part of Ser. No. US 1994-346425, filed on 29 Nov 1994, now patented, Pat. No. US 5758257  
 DT Utility  
 FS Granted  
 LN.CNT 5129  
 INCL INCLM: 345/327.000  
 INCLS: 348/001.000; 348/007.000; 348/010.000; 348/012.000; 348/013.000; 455/002.000; 455/004.200; 455/005.100  
 NCL NCLM: 345/810.000  
 NCLS: 725/014.000; 725/035.000; 725/046.000  
 IC [6]  
 ICM: H04N007-14  
 EXF 348/1; 348/2; 348/6; 348/7; 348/10; 348/12; 348/13; 348/906; 455/2; 455/3.1; 455/4.1; 455/4.2; 455/5.1; 455/6.1; 455/6.2; 455/6.3; H04N007-10; 714; 7173; <345 326-;327; <395 200-.47;200.48;200.49

L4 ANSWER 3 OF 8 USPATFULL  
 AN 1998:113200 USPATFULL  
 TI Method and apparatus for purchasing and delivering digital goods over a network  
 IN Sirbu, Marvin A., Pittsburgh, PA, United States  
 Tygar, J. D., Pittsburgh, PA, United States  
 Cox, Benjamin T. H., Pittsburgh, PA, United States  
 Wagner, Thomas, Pittsburgh, PA, United States  
 PA Carnegie Mellon University, Pittsburgh, PA, United States (U.S. corporation)  
 PI US 5809144 19980915 <--  
 AI US 1995-519074 19950824 (8)  
 DT Utility

FS Granted  
 LN.CNT 1592  
 INCL INCLM: 380/025.000  
 INCLS: 380/009.000; 380/021.000; 380/023.000; 380/024.000; 380/029.000;  
 380/030.000; 380/049.000; 380/059.000; 705/026.000; 705/027.000  
 NCL NCLM: 705/053.000  
 NCLS: 380/029.000; 380/030.000; 380/059.000; 380/282.000; 705/026.000;  
 705/027.000; 705/075.000; 705/078.000; 705/080.000  
 IC [6]  
 ICM: H04L009-00  
 EXF 380/4; 380/9; 380/23; 380/24; 380/25; 380/21; 380/29; 380/30; 380/44;  
 380/46; 380/49; 380/50; 380/59; 395/226; 395/227; 395/230; 395/235;  
 395/239; 395/240; 395/242; 395/244; 705/26; 705/27; 705/39; 705/40;  
 705/41; 705/42; 705/43; 705/44; 705/45  
  
 L4 ANSWER 4 OF 8 USPATFULL  
 AN 1998:59666 USPATFULL  
 TI System and method for scheduling broadcast of and access to video  
 programs and other data using customer profiles  
 IN Herz, Frederick, Condominium C-304, Herzwood Canaan Valley, Davis, WV,  
 United States 26260  
 Ungar, Lyle, 321 S. 20th St., Philadelphia, PA, United States 19103  
 Zhang, Jian, 836 Cooper Landing Rd., Apt. 412E, Cherry Hill, NJ, United  
 States 08002  
 Wachob, David, 8379 Glen Rd., Elkins Park, PA, United States 19117  
 Salganicoff, Marcos, 2425 Olive St., Philadelphia, PA, United States  
 19130  
 PI US 5758257 19980526 <--  
 AI US 1994-346425 19941129 (8)  
 DT Utility  
 FS Granted  
 LN.CNT 3955  
 INCL INCLM: 455/002.000  
 INCLS: 348/001.000; 348/007.000; 348/010.000; 348/012.000; 348/013.000;  
 348/906.000; 380/007.000; 380/010.000; 380/021.000; 455/004.200;  
 455/005.100  
 NCL NCLM: 725/116.000  
 NCLS: 348/906.000; 380/231.000; 380/233.000; 705/051.000; 725/119.000;  
 725/131.000; 725/143.000  
 IC [6]  
 ICM: H04N007-10  
 ICS: H04N007-14; H04N007-173  
 EXF 348/1; 348/6; 348/7; 348/10; 348/12; 348/13; 348/906; 348/2; 455/2;  
 455/4.1; 455/4.2; 455/5.1; H04N007-16; 714; 7173; 710; <380  
 68;-10;1120;21  
  
 L4 ANSWER 5 OF 8 USPATFULL  
 AN 1998:52862 USPATFULL  
 TI Telecommunications service provisioning  
 IN Carr, Richard Gregory, 38 W. 810 Deer Run Dr., St Charles, IL, United  
 States 60175  
 Pope, III, Francis Joseph, 2509 Braddock Dr., Naperville, IL, United  
 States 60565  
 PI US 5751802 19980512 <--  
 AI US 1997-794129 19970203 (8)  
 RLI Continuation of Ser. No. US 1996-627326, filed on 4 Apr 1996, now  
 abandoned which is a continuation of Ser. No. US 1994-364650, filed on  
 27 Dec 1994, now abandoned  
 DT Utility  
 FS Granted  
 LN.CNT 662  
 INCL INCLM: 379/201.000  
 INCLS: 379/067.000; 379/093.000  
 NCL NCLM: 379/201.120  
 NCLS: 379/067.100; 379/088.160; 379/093.010

IC [6]  
 ICM: H04M003-42  
 EXF 379/201; 379/211; 379/212; 379/230; 379/221; 379/102; 379/114; 379/167;  
 379/207; 379/67; 379/93

L4 ANSWER 6 OF 8 USPATFULL  
 AN 1998:10197 USPATFULL  
 TI System and method for estimating business demand based on business  
 influences  
 IN Lee, Michael D., 3213 Chandra La., Albuquerque, NM, United States  
 87124  
 Fields, Randall K., 333 Main St., P.O. Box 5000, Park City, UT, United  
 States 84060  
 Pond, Jamie T., 2016 E. Windham Cir., Salt Lake City, UT, United States  
 84109  
 Tondevold, Barrire K., 5117 Germania Pl., Murray, UT, United States  
 84123

PI US 5712985 19980127 <--  
 AI US 1995-542847 19951013 (8)  
 RLI Continuation-in-part of Ser. No. US 1993-23111, filed on 26 Feb 1993,  
 now patented, Pat. No. US 4459656 which is a continuation-in-part of  
 Ser. No. US 1991-808982, filed on 17 Dec 1991 which is a continuation  
 of  
 Ser. No. US 1989-406069, filed on 12 Sep 1989  
 DT Utility  
 FS Granted  
 LN.CNT 1544  
 INCL INCLM: 395/207.000  
 INCLS: 395/210.000; 395/208.000; 364/468.010; 364/468.020; 364/468.030  
 NCL NCLM: 705/007.000  
 NCLS: 700/095.000; 700/096.000; 700/097.000; 705/008.000; 705/010.000  
 IC [6]  
 ICM: G06F017-60  
 EXF 395/208; 395/210; 395/207; 364/468.01; 364/468.02; 364/468.03

L4 ANSWER 7 OF 8 USPATFULL  
 AN 97:37033 USPATFULL  
 TI Electronic proposal preparation system for selling computer equipment  
 and copy machines  
 IN Johnson, Jerome D., North Mankato, MN, United States  
 PA Clear With Computers, Inc., Mankato, MN, United States (U.S.  
 corporation)  
 PI US 5625776 19970429 <--  
 AI US 1994-268166 19940629 (8)  
 RLI Continuation-in-part of Ser. No. US 1992-878602, filed on 5 May 1992,  
 now patented, Pat. No. US 5493490  
 DT Utility  
 FS Granted  
 LN.CNT 2976  
 INCL INCLM: 395/227.000  
 INCLS: 395/224.000; 395/229.000; 395/615.000  
 NCL NCLM: 705/027.000  
 NCLS: 705/024.000; 705/029.000; 707/104.100  
 IC [6]  
 ICM: G06F017-30  
 ICS: G06F017-60  
 EXF 364/400; 364/401; 364/402; 364/403; 364/408; 364/419.19; 395/600

L4 ANSWER 8 OF 8 USPATFULL  
 AN 97:25850 USPATFULL  
 TI Electronic proposal preparation system  
 IN Johnson, Jerome D., North Mankato, MN, United States  
 PA Clear With Computers, Inc., Mankato, MN, United States (U.S.  
 corporation)  
 PI US 5615342 19970325 <--

AI US 1996-596575 19960205 (8)  
RLI Continuation of Ser. No. US 1992-878602, filed on 5 May 1992, now  
patented, Pat. No. US 5493490  
DT Utility  
FS Granted  
LN.CNT 2586  
INCL INCLM: 395/227.000  
INCLS: 395/224.000; 395/229.000  
NCL INCLM: 705/027.000  
NCLS: 705/024.000; 705/029.000  
IC [6]  
ICM: G06F153-00  
ICS: G06F017-30; G06F017-60  
EXF 364/400R; 364/401; 364/402; 364/403; 364/408; 364/419.19; 395/600

✓  
L5 ANSWER 1 OF 9 USPATFULL  
AN 2001:23199 USPATFULL  
TI System and method for automatic provision customer selection, and  
deactivation of temporary advance intelligent network services  
IN Malik, Dale W., Atlanta, GA, United States  
PA Bellsouth Intellectual Property Corporation, Wilmington, DE, United  
States (U.S. corporation)  
PI US 6188757 B1 20010213  
AI US 1998-107794 19980630 (9)  
RLI Continuation-in-part of Ser. No. US 1997-908068, filed on 11 Aug 1997  
DT Utility  
FS Granted  
LN.CNT 1908  
INCL INCLM: 379/207.000  
INCLS: 379/230.000  
NCL NCLM: 379/207.020  
NCLS: 379/230.000  
IC [7]  
ICM: H04M003-42  
ICS: H04M007-00  
EXF 379/201; 379/207; 379/219; 379/220; 379/229; 379/230

✓  
L5 ANSWER 2 OF 9 USPATFULL  
AN 2001:15640 USPATFULL  
TI System and method for automated provision and customer selection of  
temporary advanced intelligent network services  
IN Malik, Dale W., Atlanta, GA, United States  
PA BellSouth Intellectual Property Corporation, Wilmington, DE, United  
States (U.S. corporation)  
PI US 6181787 B1 20010130  
AI US 1997-908068 19970811 (8)  
DT Utility  
FS Granted  
LN.CNT 1591  
INCL INCLM: 379/207.000  
INCLS: 379/230.000  
NCL NCLM: 379/207.110  
NCLS: 379/230.000  
IC [7]  
ICM: H04M003-42  
ICS: H04M007-00  
EXF 379/201; 379/207; 379/219; 379/220; 379/229; 379/230

✓  
L5 ANSWER 3 OF 9 USPATFULL  
AN 2001:5722 USPATFULL  
TI System and method for automated provision and customer selection of  
temporary caller identification services  
IN Malik, Dale W., Atlanta, GA, United States  
PA Bellsouth Intellectual Property Corporation, Wilmington, DE, United  
States (U.S. corporation)  
PI US 6173049 B1 20010109  
AI US 1998-203067 19981201 (9)  
RLI Continuation-in-part of Ser. No. US 1997-908068, filed on 11 Aug 1997  
DT Patent  
FS Granted  
LN.CNT 1854  
INCL INCLM: 379/207.000  
INCLS: 379/127.000; 379/142.000; 379/230.000

NCL NCLM: 379/207.110  
NCLS: 379/207.140; 379/221.090; 379/221.120; 379/230.000  
IC [7]  
ICM: H04M003-42  
ICS: H04M001-57; H04M007-00; H04M015-06  
EXF 379/127; 379/142; 379/201; 379/207; 379/219; 379/220; 379/229; 379/230

L5 ANSWER 4 OF 9 USPATFULL  
AN 2001:5721 USPATFULL  
TI System and method for notifying a customer of a call from a particular number  
IN Malik, Dale W., Dunwoody, GA, United States  
PA Bellsouth Intellectual Property Corporation, Wilmington, DE, United States (U.S. corporation)  
PI US 6173048 B1 20010109  
AI US 1998-116167 19980716 (9)  
✓ RLI Continuation-in-part of Ser. No. US 1997-908068, filed on 11 Aug 1997  
DT Patent  
FS Granted  
LN.CNT 1500  
INCL INCLM: 379/207.000  
INCLS: 379/230.000; 455/031.200  
NCL NCLM: 379/207.110  
NCLS: 340/007.470; 379/221.090; 379/221.120; 379/230.000  
IC [7]  
ICM: H04M003-42  
ICS: H04M007-00; H04Q007-14  
EXF 379/201; 379/207; 379/219; 379/220; 379/229; 379/230; 340/539;  
455/31.1;  
455/31.2; 455/31.3; 455/415

L5 ANSWER 5 OF 9 USPATFULL  
AN 2001:5720 USPATFULL  
TI System and method for temporary voicemail service  
IN Malik, Dale W., 1035 Redfield La., Dunwoody, GA, United States 30338  
✓ PI US 6173047 B1 20010109  
AI US 1998-90437 19980604 (9)  
RLI Continuation-in-part of Ser. No. US 1997-908068, filed on 11 Aug 1997  
DT Patent  
FS Granted  
LN.CNT 1516  
INCL INCLM: 379/207.000  
INCLS: 379/088.220; 379/230.000  
NCL NCLM: 379/207.110  
NCLS: 379/088.220; 379/221.090; 379/221.120; 379/230.000  
IC [7]  
ICM: H04M003-42  
ICS: H04M001-64; H04M007-00  
EXF 379/201; 379/207; 379/219; 379/220; 379/229; 379/230; 379/88.22;  
379/88.23; 379/88.25

L5 ANSWER 6 OF 9 USPATFULL  
AN 2000:143439 USPATFULL  
TI Automatic electronic telecommunications order translation and processing  
IN Gilles, Timothy Mark, Schaumburg, IL, United States  
✓ PA Ameritech Corporation, Hoffman Estates, IL, United States (U.S. corporation)  
PI US 6137873 20001024  
AI US 1998-56023 19980406 (9)  
DT Utility  
FS Granted  
LN.CNT 940  
INCL INCLM: 379/201.000  
INCLS: 379/088.210; 379/093.010; 379/093.030; 379/243.000; 379/245.000



NCL NCLM: 379/202.010  
NCLS: 379/088.210; 379/093.010; 379/093.030; 379/243.000; 379/245.000  
IC [7]  
ICM: H04M003-42  
EXF 379/27; 379/28; 379/201; 379/207; 379/229; 379/230; 379/93.01;  
379/93.03; 379/88.21; 379/243; 379/245; 379/265; 379/269; 379/196

L5 ANSWER 7 OF 9 USPATFULL  
AN 2000:25576 USPATFULL  
TI Service order mechanism for telephone subscriber  
IN An, Yafan, Plano, TX, United States  
Bierman, Eric, Ottawa, Canada  
Kelly, Michael A., Kinburn, Canada  
PA Nortel Networks Corporation, Montreal, Canada (non-U.S. corporation)  
PI US 6031904 20000229  
AI US 1997-878966 19970619 (8)  
PRAI US 1996-28760P 19961023 (60)  
DT Utility  
FS Granted  
LN.CNT 645  
INCL INCLM: 379/201.000  
INCLS: 379/093.120; 379/093.230; 370/352.000; 370/466.000  
NCL NCLM: 379/201.020  
NCLS: 370/352.000; 370/466.000; 379/093.120; 379/093.230  
IC [7]  
ICM: H04M003-42  
EXF 379/201; 379/114; 379/115; 379/93.12; 379/93.23; 379/265; 379/142;  
370/352; 370/401; 370/466; 370/467; 370/465

L5 ANSWER 8 OF 9 USPATFULL  
AN 1999:76700 USPATFULL  
TI Method and system for processing a service request relating to  
installation, maintenance or repair of telecommunications services  
provided to a customer premises  
IN Storch, Joan A., St. Louis County, MO, United States  
Storch, Danny L., St. Louis County, MO, United States  
PA Southwestern Bell Telephone Co., St. Louis, MO, United States (U.S.  
corporation)  
PI US 5920846 19990706  
AI US 1996-608838 19960227 (8)  
DT Utility  
FS Granted  
LN.CNT 6043  
INCL INCLM: 705/007.000  
INCLS: 705/008.000; 705/009.000; 705/011.000; 379/010.000; 379/015.000;  
379/001.000; 379/027.000; 379/029.000; 364/468.050  
NCL NCLM: 705/007.000  
NCLS: 379/015.030; 379/027.010; 700/099.000; 705/008.000; 705/009.000;  
705/011.000  
IC [6]  
ICM: G06F017-60  
ICS: H04M003-00  
EXF 705/7; 705/8; 705/9; 705/11; 364/468.05-468.08; 379/1; 379/2; 379/4-6;  
379/9; 379/10; 379/14; 379/15; 379/18; 379/26; 379/27; 379/29; 379/32;  
379/33; 379/34; 379/258; 379/280; 379/399; 370/241; 370/242; 370/246;  
370/248; 370/249; 370/251; 371/20.1; 371/20.4; 371/20.5

L5 ANSWER 9 OF 9 USPATFULL  
AN 1999:31801 USPATFULL  
TI Analysis and validation system for provisioning network related  
facilities  
IN Farris, Robert D., Sterling, VA, United States  
Harper, Myron E., Burtonsville, MD, United States  
PA Bell Atlantic Network Services, Inc., Arlington, VA, United States  
(U.S.)

corporation)  
 PI US 5881131 19990309  
 AI US 1997-884616 19970627 (8)  
 RLI Continuation-in-part of Ser. No. US 1995-467646, filed on 6 Jun 1995,  
 now patented, Pat. No. US 5644619 And a continuation-in-part of Ser.  
 No. US 1995-376201, filed on 20 Jan 1995, now patented, Pat. No. US 5491742  
 And a continuation-in-part of Ser. No. US 1993-152360, filed on 16 Nov  
 1993, now patented, Pat. No. US 5416833  
 DT Utility  
 FS Granted  
 LN.CNT 3686  
 INCL INCLM: 379/027.000  
 INCLS: 379/201.000; 379/207.000; 379/265.000; 370/259.000  
 NCL NCLM: 379/015.030  
 NCLS: 370/259.000; 379/027.010  
 IC [6]  
 ICM: H04M001-24  
 ICS: H04M003-08; H04M003-22  
 EXF 379/27; 379/34; 379/111-112; 379/115; 379/121; 379/134; 379/140;  
 379/196-197; 379/207; 379/219; 379/229; 379/242; 379/243; 379/265;  
 379/308; 379/201; 379/93; 379/211-212; 379/230; 370/351; 370/352;  
 370/389-390; 370/392; 370/259

Joe  
240-632-5787

✓  
L12 ANSWER 1 OF 2 USPATFULL  
AN 2002:117277 USPATFULL  
TI Telephoning method comprising novel subscriber service  
IN Trell, Anders Edvard, Stockholm, SWEDEN  
PA Anders Trell Trust, Buffalo, NY, United States (U.S. corporation)  
PI US 6393117 B1 20020521  
WO 9745988 19971204  
AI US 1998-155674 19981002 (9)  
WO 1997-SE858 19970524  
19981002 PCT 371 date  
PRAI SE 1996-2187 19960531  
DT Utility  
FS GRANTED  
LN.CNT 485  
INCL INCLM: 379/207.100  
INCLS: 379/230.000; 379/201.000; 379/220.000; 379/067.000; 379/373.000  
NCL NCLM: 379/207.100  
NCLS: 379/071.000; 379/207.030; 379/220.010; 379/230.000; 379/374.020  
IC [7]  
ICM: H04M003-42  
ICS: H04M007-00; H04M001-64; H04M003-00  
EXF 379/201; 379/204; 379/210; 379/211; 379/179; 379/207; 379/373; 379/67

✓  
L12 ANSWER 2 OF 2 USPATFULL  
AN 2002:103512 USPATFULL  
TI Real-time usage-based spontaneous subscription service  
IN Bauer, Thomas Michael, Belle Mead, NJ, United States  
Gilboy, Christopher P, Freehold, NJ, United States  
PA AT&T Corp., New York, NY, United States (U.S. corporation)  
PI US 6385311 B1 20020507  
AI US 1999-338146 19990623 (9)  
DT Utility  
FS GRANTED  
LN.CNT 337  
INCL INCLM: 379/201.020  
INCLS: 379/201.050; 379/201.120; 379/207.020  
NCL NCLM: 379/201.020  
NCLS: 379/201.050; 379/201.120; 379/207.020  
IC [7]  
ICM: H04M003-42  
EXF 379/201.01; 379/201.02; 379/201.05; 379/201.12; 379/202.01; 379/203.01;  
379/204.01; 379/205.01; 379/206.01; 379/207.02; 379/207.11

✓  
L14 ANSWER 1 OF 1 USPATFULL  
AN 2000:68527 USPATFULL  
TI Method for controlling subscriber access to a fee-based service  
IN Byrd, Sally, Somerville, NJ, United States  
Harwood, Jonathan P., Morganville, NJ, United States  
Kerr, Suzanne P., Madison, NJ, United States  
PA AT&T Corp, Middletown, NJ, United States (U.S. corporation)  
PI US 6069941 20000530 <--  
AI US 1995-508143 19950727 (8)  
DT Utility  
FS Granted  
LN.CNT 603  
INCL INCLM: 379/121.000  
INCLS: 379/111.000; 379/133.000; 379/134.000  
NCL NCLM: 379/121.060  
NCLS: 379/111.000; 379/114.170; 379/114.190; 379/133.000; 379/134.000  
IC [7]  
ICM: H04M015-00  
EXF 379/111; 379/112; 379/113; 379/114; 379/115; 379/67; 379/88; 379/89;  
379/121; 379/133; 379/134; 379/144; 379/142; 379/145; 379/91.01;  
379/93.02; 379/93.13

PULL L15 ANSWER 2 OF 3 USPATFULL  
AN 96:71266 USPATFULL  
TI Access to unsubscribed features  
IN Andruska, Donald L., Glen Ellyn, IL, United States  
Majeti, Venkata C., Naperville, IL, United States  
PA AT&T Corp., Murray Hill, NJ, United States (U.S. corporation)  
PI US 5544236 19960806 <--  
AI US 1994-258197 19940610 (8)  
DT Utility  
FS Granted  
LN.CNT 631  
INCL INCLM: 379/201.000  
INCLS: 379/207.000; 379/096.000; 379/112.000; 379/094.000  
NCL NCLM: 379/201.020  
NCLS: 379/093.140; 379/093.170; 379/207.020  
IC [6]  
ICM: H04M003-42  
ICS: H04M011-00  
EXF 379/201; 379/207; 379/112; 379/144; 379/94; 379/93; 379/96; 379/90;  
379/157; 379/97; 379/98

✓  
L16 ANSWER 1 OF 1 USPATFULL  
AN 1998:46271 USPATFULL  
TI On-demand communications services  
IN Mirville, Jean-Robert, Manalapan, NJ, United States  
Silverman, David Phillip, Somerville, NJ, United States  
PA AT&T Corp., Middletown, NJ, United States (U.S. corporation)  
PI US 5745553 19980428 <--  
AI US 1996-632864 19960416 (8)  
DT Utility  
FS Granted  
LN.CNT 566  
INCL INCLM: 379/067.000  
INCLS: 379/201.000; 379/204.000; 379/211.000  
NCL NCLM: 379/201.050  
NCLS: 379/067.100; 379/114.010; 379/204.010; 379/207.110  
IC [6]  
ICM: H04M001-64  
ICS: H04M003-42  
EXF 379/201; 379/112; 379/114; 379/67; 379/88; 379/204; 379/142; 379/127;  
379/211; 379/215; 370/271; 370/259

=> d ab

L16 ANSWER 1 OF 1 USPATFULL  
AB A communications system is designed to transmit to end-user devices involved in a call information related to communications services that are invokable in real time from the end-user devices. The transmitted information includes activation codes for invoking for a usage fee, features that may or may not be subscribed to by a caller.

✓  
PUBL

L3 ANSWER 1 OF 9 USPATFULL  
AN 2002:225534 USPATFULL  
TI System and method for checking service availability  
IN Cole, Allen, Redmond, WA, United States  
Engquist, Susan, Seattle, WA, United States  
Wei, Xinguo, Issaquah, WA, United States  
PA AT&T Wireless Services, Inc., Redmond, WA, United States (U.S.  
corporation)  
PI US 6445912 B1 20020903  
AI US 2000-572144 20000517 (9)  
✓ PRAI US 1999-140620P 19990623 (60)  
DT Utility  
FS GRANTED  
LN.CNT 650  
INCL INCLM: 455/406.000  
INCLS: 455/422.000; 455/424.000; 455/456.000  
NCL NCLM: 455/406.000  
NCLS: 455/422.000; 455/424.000; 455/456.000  
IC [7]  
ICM: H04M011-00  
EXF 455/406-408; 455/419; 455/423; 455/422; 455/424; 455/446; 455/456;  
455/457; 705/1; 705/26

L18 ANSWER 3 OF 9 USPATFULL  
AN 2001:216065 USPATFULL  
TI Methods, systems and articles for ordering a telecommunication service  
IN Alcott, Scott Patrick, Oak Park, IL, United States  
PA Ameritech Corporation, Hoffman Estates, IL, United States (U.S.  
corporation)  
PI US 6324273 B1 20011127  
AI US 1998-44618 19980319 (9)  
DT Utility  
FS GRANTED  
✓ LN.CNT 406  
INCL INCLM: 379/201.000  
INCLS: 379/088.230; 379/211.000; 379/216.000  
NCL NCLM: 379/201.030  
NCLS: 379/088.230; 379/216.010  
IC [7]  
ICM: H04M003-42  
EXF 379/88.13; 379/88.19; 379/88.22; 379/88.23; 379/88.24; 379/88.25;  
379/201; 379/202; 379/204; 379/205; 379/207; 379/211; 379/212; 379/215;  
379/230; 379/114; 379/88.18; 379/93.12; 379/142; 379/214; 379/216;  
379/265; 379/266; 379/355; 379/243